DOCUMENT RESUME

ED 291 739 SP 030 026

AUTHOR Garland, Daniel J.; Barry, John R.
TITLE Personality and Performance in Intercollegiate Football.
PUB DATE Aug 87
NOTE 33p.; Paper presented at the Annual Convention of the American Psychological Association (New York, NY, 95th, August, 1987).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Athletes; *Football; Higher Education; *Leadership Qualities; *Performance Factors; *Personality Traits; Self Esteem; Student Characteristics

ABSTRACT

The present study, based on Chelladurai and Carron's (1978) multidimensional theory of leadership, sought to determine if selected personality traits and specific leader behaviors are predictive of performance in collegiate football. Prior to regular season competition, collegiate football players (N=272) from three southeastern United States universities completed Cattell's Sixteen Personality Factor (16 PF) questionnaire and the Leadership Scale for Sports (Perception Version). Following regular season competition, players were grouped by their coaches into one of three athetic performance categories (Regulars, Substitutes, and Survivors). It was found that the personality traits of extroversion, emotional stability, tough-mindedness, and group-dependence, along with the leader behaviors of training and instruction, democratic behavior, autocratic behavior, social support, and rewarding behavior were predictive of performance in collegiate football, independently and interactively. The findings are discussed in relation to Chelladurai and Carron's (1978) multidimensional theory of leadership. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED291739

Personality and Performance in Intercollegiate Football

Daniel J. Garland and John R. Barry

Department of Psychology

University of Georgia

Athens, Georgia 30602

(404)542-2174

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

D.J. Garland

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Presented at the 95th Annual Convention of the American Psychological Association, New York City, NY, August, 1987.

SP 030 026

BEST COPY AVAILABLE

Abstract

The present study, based on Chelladurai and Carron's (1978) multidimensional theory of leadership, sought to determine if selected personality traits and specific leader behaviors are predictive of performance in collegiate football. Prior to regular season competition, collegiate football players (N=272) from three southeastern United States universities completed Cattell's Sixteen Personality Factor (16 PF) questionnaire and the Leadership Scale for Sports (Perception Version). Following regular season competition, players were grouped by their coaches into one of three athletic performance categories (Regulars, Substitutes, and Survivors). It was found that the personality traits extroversion, emotional stability, tough-mindedness, and group-dependence, along with the leader behaviors of training and instruction, democratic behavior, autocratic behavior, social support, and rewarding behavior were predictive of performance in collegiate football, independently and interactively. The findings are discussed in relation to Chelladurai and Carron's (1978) multidimensional theory of leadership.

Personality and Performance in Intercollegiate Football

The role personality may play in athletic performance has been of interest to sport psychologists for decades. Research has been conducted to obtain accurate and reliable information about the dynamics of personality which may facilitate or undermine athletic performance. Although sport personality research is prolific, the relationship between personality and athletic performance has not been strongly established. Several authors have argued for a personality-performance relationship, (Kane, 1970, 1980; Morgan & Costill, 1972; Morgan & Johnson, 1977, 1978; Morgan & Pollock, 1977; Williams & Parkin, 1980), while others have argued that there is no relationship between personality and athletic performance (Kroll, 1970, 1976; Martens, 1975; Rushall, 1970, 1975; Singer, Harris, Kroll, Martens, Sechrest, 1977).

Morgan (1980) has suggested that the primary explanation for the conflicting conclusions is that sport personality studies have ignored important variables such as situational factors. It seems likely that situational determinants can mediate the effectiveness of athletic performance. Such mediating variables as type of sport, level of competition, and coaching behaviors may play a valuable role in the performance of an athlete. Consequently, situational-behavioral theories have been developed in an attempt to integrate both situational and behavioral

variables into a more multidimensional paradigm. Several situational-behavioral theories, such as Fiedler's (1967) contingency model, House's (1971) path-goal theory, and Hersey and Blanchard's (1977) situational theory, have generated an enormous amount of research to test their efficacy.

While the major impetus behind the development of the aforementioned models of leadership has come from management science research, Chelladurai and Carron's (1978) situational-behavioral multidimensional leadership model is one of the few paradigms developed for application to sport settings. This multidimensional model attempts to explain athletic performance by examining the interaction of specific leader behaviors and antecedent variables such as situational characteristics, and member characteristics. In essence, this model views athletic performance as the products of the interactions of three components: (a) preferred leader behaviors, which are preferred by the athletes; (b) perceived leader behaviors, which are behaviors of the coach that are perceived by the athletes; and (c) antecedent variables, such as situational and member characteristics.

In accordance with the model, leader behaviors are products of situational characteristics (i.e., sport type) and member characteristics (i.e., personality traits). In addition, Chelladurai and Carron (1978) hypothesized consequences of the "congruence" among the preferred and perceived leader behaviors. Simply stated, when there is congruity, athletic performance should be maximal, while

incongruity between preferred and perceived leader behaviors results in minimal athletic performance.

To facilitate the testing of the multidimensional leadership model, Chelladurai and Saleh (1980) developed the Leadership Scale for Sports (LSS). This reliable sport-specific instrument, consists of five dimensions of leader behaviors in sports. The dimensions include, one direct task factor (training and instruction), two decision-style factors (democratic and autocratic), and two motivational factors (social support and rewarding behavior).

While the development of the LSS has generated a number of sport-related studies to test the efficacy of the multidimensional leadership model (Chelladurai, 1984; Chelladurai & Arnott, 1985; Chelladurai & Carron, 1983; Weiss & Friedrichs, 1986), to date there has been no systematic investigation of the relationship between personality traits (antecedent variables) and perceived leader behaviors, and their subsequent influence upon athletic performance. As a result, the present investigation will examine the influence of personality traits and perceived leader behaviors on athletic performance, independently and interactively.

Personality

Research on self-confidence by clinical and experimental psychologists has recently increased due to its importance in situations that are anxiety-producing (Carron, 1984). Intuitively, increased self-confidence will allow for an athlete to exhibit greater selectivity, intensity, and persistence in sport and physical activity, resulting in

maximal performance.

The major impetus for the relationship between athletic performance and self-confidence comes from Bandura's theory of self-efficacy (1977). Self-efficacy is defined as the strengths of a person's conviction to successfully execute a behavior that will lead to a desirable outcome. Self-efficacy and self-confidence have been used interchangeably, with self-confidence being treated as a general, more global personality trait. It is argued that a person with a high level of self-confidence, will most likely possess a high level of emotional stability, persistence, self-assuredness, and tough-mindedness when engaging in stressful activities (Carron, 1984; Cattell, Eber, & Tatsuoka, 1982). Carron (1984) also associates self-confidence with emotional arousal, which is an index of an individual's anxiety or fear. Yerkes and Dodson (1908) proposed the Inverted-U theory of emotional arousal to account for levels of performance. The theory suggests that a moderate level of arousal is necessary for optimal performance. In addition, insufficient arousal leads to amotivation while excessive arousal leads to anxiety, which inhibits performance. Thus Yerkes and Dodson (1908) assert that increased arousal will facilitate performance up to an optimal level, after which performance will decrease. This theory suggests that individuals who are able to control their emotional and anxiety levels (emotional stability), will have an advantage in maximizing athletic performance.

Several empirical studies have supported the assertions

of Bandura's self-efficacy theory (1977) and Yerkes and Dodson's Inverted-U theory (1908). Taylor's (1987) findings indicated that high-levels of self-confidence and anxiety were predictive of athletic performance in "gross motor, aerobic" sports (i.e., football). Additional studies have supported the importance of increased self-confidence with high level performance in areas such as gymnastics (Mahoney & Avener, 1977) and tasks involving leg strength (Weinberg, Gould, & Jackson, 1979), and arm strength (Nelson & Furst, 1972).

In addition, Oxendine (1970) and Taylor (1987) suggest that strength-oriented, gross motor, aerobic sports (i.e., football, long distance running, and skiing) require high levels of emotional arousal for optimal performance.

Based on the theoretical and empirical findings presented, self-confidence (emotional stability, persistence, self-assuredness, and tough-mindedness) and emotional arousal (emotional stability) are hypothesized to be related to athletic performance in collegiate football.

Leader Behaviors

The development of the LSS has generated considerable research examining the influence of leader behaviors on athletic satisfaction and performance (Chelladurai, 1984; Chelladurai & Arnott, 1985; Chelladurai & Carron, 1983; Weiss & Friedrichs, 1986). The primary focus of these and other studies has been the athlete's preference for specific leader behaviors and its relation to athletic satisfaction and performance. To date, the leader behaviors preferred by

highly motivated, university level athletes appears well established (Carron, 1984). These preferences include coaches who are high in social support, rewarding (positive feedback) behavior, training and instruction, and have an autocratic decision-style.

Considerable research has identified the preferences for specific leader behaviors, while virtually ignoring the athletes' perceptions of leader behaviors. As previously mentioned, Chelladurai and Carron's (1978) multidimensional model asserts that the congruence of preferred and perceived leader behaviors, along with antecedent variables, influences athletic performance. Chelladurai and Carron (1978) argued that the athletes' perceptions of specific leader behaviors may form the basis for an incompatible coach/athlete relationship, resulting in minimal athletic performance. A series of studies by Smith, Smoll, and their associates revealed the need for measuring athletes' perceptions of their coaches' behaviors (Smith, Smoll, & Hunt, 1977; Smith, Smoll, Hunt, Curtis, & Coppel, 1979; Smith, Smoll, & Curtis, 1979). This research program revealed a low correlation between baseball players' perceptions of their coaches' behaviors and the coaches' self-perceptions. It was also found that certain coaching behavior (reinforcement, mistake-contingent encouragement, mistake-contingent technical instruction, and organization/control) were evaluated most favorably by coaches. Finally, it was found that a training program based on the athletes' perceived coaching behaviors, was highly effective in changing the

quality of coaching behaviors and athletic satisfaction and performance.

A study by Percival (1971) of 382 athletes and 66 coaches identified disparity between coach and athlete perceptions. Athletes and coaches rated coaching personality, techniques, knowledge, and mechanics on a 1 to 10 scale. The results revealed that athletes rated the coaches lower than the coaches on the four categories. Athletes' perceptions were primarily negative and coaches' perceptions were positive for each category.

In light of the established research on preferences for specific leader behaviors and the limited research on perceived leader behaviors, the present study will focus on the perceptions of leader behaviors, while drawing from the established literature on preferred leader behaviors to examine the congruence of preferred and perceived leader behaviors. It is hypothesized that athletic performance will be related to the congruence of preferred and perceived leader behaviors.

Based on the existing research on Chelladurai and Carron's (1978) multidimensional model, it is apparent that specifics of the model have not been adequately tested or verified. It is suggested that antecedent variables such as personality traits, along with the congruity of preferred and perceived leader behaviors, will have an affect on athletic performance. The present study will examine athletic performance within the multidimensional model by considering several new dimensions. First, personality traits will be

examined as antecedent determinants of athletic performance. Second, the congruity of preferred and perceived leader behaviors and their relation to athletic performance will be examined. Considerable research has indentified the preferred leader behaviors of highly motivated, experienced athletes while ignoring perceptions of leader behaviors. Thus the present study will measure the perceptions of leader behaviors and compare them with established preferences. Third, the possible relationship between personality traits and perceived leader behaviors upon athletic performance will be examined. It is suggested that athletic performance may be a function of the interaction between personality traits and leader behaviors.

Method

Subjects

The sample consisted of 272 collegiate scholarship football players, who were attending three southeastern United States universities. The participating university football teams will remain anonymous at the request of the coaches.

Performance Criterium

After consultation with several collegiate football coaches, an athletic performance continuum was established to differentiate the players into three separate categories, each varying in the degree of athletic success. The players were identified as Regulars (N = 101), Substitutes (N = 94), and Survivors (N = 77) based on the following criteria:

1. Regulars--Those players who regularly started and/or

played 50% or more of the plays during the games throughout the season.

2. Substitutes--Those players who started and/or played less than 50% of the plays during the games throughout the season.

3. Survivors--Those players who did not play during the season, except for acknowledgement purposes (i.e., playing the last few plays of a game in which the outcome is not in question).

Measures

16 Personality Factor Questionnaire

The 16PF (Cattell, Eber, & Tatsuoka, 1982) is bi-polar in nature, having a low- and a high-score description for each trait. Form C was used for all the players, in order to utilize the built-in Motivational Distortion scale to evaluate and correct for faking good, faking bad, and random answering.

Leadership Scale for Sports (LSS)

The LSS, developed by Chelladurai and Saleh (1980), consists of 40 items representing five dimensions of leader behavior in sports. This five-dimensional description of coaching behavior consists of one direct task factor (training and instruction), two decision-style factors (democratic and autocratic), and two motivational factors (social support and positive feedback).

Training and instruction. Training and instruction behavior refers to behavior of the coach aimed at improving the performance of the athletes by emphasizing and

facilitating hard and strenuous training, along with instruction on skills, techniques, and tactics of the sport.

Democratic behavior. Democratic behavior of the coach allows for a greater participation by the athletes in decisions pertaining to group goals, practice methods, and game tactics and strategies.

Autocratic behavior. Autocratic behavior of the coach involves independence in decision making and stresses personal authority.

Social support. Social support behavior is characterized by a concern for individual athletes, for their welfare, and for warm interpersonal relations with members.

Rewarding behavior. Rewarding (positive feedback) behavior provides reinforcements for an athlete by recognizing and rewarding good performance.

The LSS was administered to all the players to measure their perceptions of the actual leader behavior of their specific position coach.

Procedure

Initially, personal contact was made with the football coaches of the three participating universities to determine their interest and to obtain their cooperation. Prior to the first game of the regular season, the football players were assembled and informed consent forms, the 16 Personality Factor Questionnaire, and the Leadership Scale for Sports (Perception version) were completed. At the conclusion of the season, coaches (N=23) grouped their players into the three athletic performance categories (Regulars, Substitutes,

and Survivors) based on the previously established criteria, and provided this information to the present investigators. Coaches used seasonal records of player play participation to categorize their players. The coaches reported no problems in distinguishing between players for specific groups.

Results

Preliminary analyses was conducted using a maximum R-square multiple regression analysis along with an optimal subset regression procedure (SAS Institute, 1985) to determine which variables significantly contributed to the prediction of athletic performance. The results, presented in Table 1, indicate that four of the sixteen personality traits, group-dependence, tough-mindedness, extroversion, and emotional stability, along with the five perceived leader behaviors were found to be significant contributors to athletic performance in collegiate football. These nine variables accounted for 59 percent of the adjusted total variance. Descriptive statistics are presented in Table 2.

Insert Tables 1 and 2 about here

Multiple regression analyses were conducted to determine the influence of the four significant personality traits and the five significant perceived leader behavior dimensions on performance, independently and interactively. The analyses involved between-subjects regression in which performance levels were regressed on the main effects and interactions of the personality traits and leader behavior dimensions. The

analyses of the personality traits, the perceived leader behaviors, and their interactions will be discussed separately.

Personality Traits

The four significant personality traits of group-dependence, tough-mindedness, extroversion, and emotional stability were analyzed in a multiple regression analysis for their influence on athletic performance in collegiate football. The four traits taken together were found to be a significant predictor of performance, $F(4, 267) = 26.88$, $p<.0001$, accounting for approximately 29 percent of the adjusted total variance.

The between-subjects regression analyses revealed that group-dependence, $F(1, 270) = 31.25$, $p<.0001$, tough-mindedness, $F(1, 270) = 39.80$, $p<.0001$, extroversion, $F(1, 270) = 37.43$, $p<.0001$, and emotional stability, $F(1, 270) = 4.15$, $p<.05$, were significantly predictive of performance. Players who were high in each of the four traits were associated with higher performance levels.

A significant linear extroversion X emotional stability X tough-mindedness interaction emerged, $F(1, 268) = 6.32$, $p<.02$, indicating high levels of the three traits were associated with higher performance levels.

Three additional significant interactions also emerged: extroversion X tough-mindedness, $F(1, 269) = 4.88$, $p<.05$, emotional stability X tough-mindedness, $F(1, 269) = 4.12$, $p<.05$, and extroversion X group-dependence, $F(1, 269) = 5.00$, $p<.05$. In each case, players with high levels of the two

traits were associated with higher performance levels, suggesting that these traits may not affect athletic performance independently.

Perceived Leader Behaviors

The five perceived leader behavior dimensions were analyzed in a multiple regression analysis for their influence on athletic performance. The five leader behaviors taken together were found to be a significant predictor of performance, $F(5, 266) = 54.75$, $p<.0001$, accounting for approximately 51 percent of the adjusted total variance.

The between-subjects regression analyses revealed that training and instruction, $F(1, 270) = 75.23$, $p<.0001$, democratic behavior, $F(1, 270) = 52.98$, $p<.0001$, autocratic behavior, $F(1, 270) = 124.02$, $p<.0001$, social support, $F(1, 270) = 9.97$, $p<.002$, and rewarding behavior, $F(1, 270) = 10.81$, $p<.002$ were predictive of performance. Players who perceived their coach as offering more training and instruction, having a more democratic and a less autocratic decision-style, being more socially supportive, and offering more positive feedback were associated with higher levels of performance.

Four significant interactions also emerged: training and instruction X democratic behavior X autocratic behavior, $F(1, 268) = 3.96$, $p<.05$, training and instruction X social support X rewarding behavior, $F(1, 268) = 4.61$, $p<.05$, training and instruction X democratic behavior, $F(1, 269) = 7.30$, $p<.01$, and democratic behavior X autocratic behavior, $F(1, 269) = 5.99$, $p<.02$. In each case, players associated

with high levels of performance perceived their coach as providing high levels of the variables, except for autocratic behavior, which was perceived at low levels. The significant democratic X autocratic decision-style interaction is of particular interest. The more successful players perceived their coach as being more democratic and less autocratic, while less successful players perceived the opposite relationship. These interactions suggest that leader behaviors are related and may not affect performance independently.

As previously mentioned, Chelladurai and Carron's (1978) multidimensional model suggests that a major component affecting athletic performance is the congruity of athletic perceptions of and preferences for leader behaviors. While preferences for specific leader behaviors among experienced athletes is well established, the present study sought to examine the perceptions of leader behaviors and their congruence with established preferences. The results indicate, that among high level performers, congruity of established preferences with perceptions of leader behaviors was found for training and instruction, social support, and rewarding behavior. The congruity of decision-styles (democratic and autocratic) was not as expected. High level performers perceived their coach as having a more democratic decision-style, inconsistent with the established preferences for an autocratic decision-style among experienced, highly motivated athletes. These results will be discussed more fully in a subsequent section.

Personality Traits and Perceived Leader Behaviors

The four significant personality traits and the five perceived leader behavior dimensions were analyzed in a multiple regression analysis for their influence on performance levels. The nine variables taken together were found to be a significant predictor of performance, $F(9, 263) = 44.28$, $p<.0001$, accounting for 59 percent of the adjusted total variance.

The between-subjects regression analysis revealed a number of significant interactions. A significant emotional stability X training and instruction X autocratic behavior X rewarding behavior, $F(1, 267) = 8.22$, $p<.005$, interaction emerged. The pattern of this interaction will be discussed after consideration of lower-order interactions.

Five additional significant interactions also emerged: autocratic behavior X tough-mindedness X training and instruction, $F(1, 268) = 5.18$, $p<.03$, autocratic behavior X group-dependence X rewarding behavior, $F(1, 268) = 6.70$, $p<.01$, autocratic behavior X emotional stability X rewarding behavior, $F(1, 268) = 3.92$, $p<.05$, autocratic behavior X tough-mindedness X extroversion, $F(1, 268) = 4.40$, $p<.04$, and autocratic behavior X rewarding behavior, $F(1, 269) = 4.08$, $p<.05$. These interactions indicate that the perceived autocratic behavior of the coach is a major contributor to athletic performance. Considering all the interactions, high level performers possessed high-levels of the traits extroversion, emotional stability, tough-mindedness, and group-dependence, and perceived their coach as exhibiting a

less autocratic decision-style, while perceiving their coach as exhibiting a high level of training and instruction, and rewarding behavior. Conversely, it must be emphasized that players associated with lower levels of performance perceived their coach as exhibiting a high level of autocratic behavior, while perceiving lower levels of the significant leader behaviors and possessing lower levels of the significant personality traits.

Discussion

The purpose of the present study was to determine if selected personality traits and specific leader behaviors are predictive of performance in collegiate football, independently and interactively. It was found that: (a) the personality traits extroversion, emotional stability, tough-mindedness, and group-dependence are significant predictors of performance in collegiate football; (b) the congruence of preferred and perceived leader behaviors is significantly predictive of performance; and (c) the interaction of personality traits and leader behaviors is predictive of performance, suggesting these variables may not affect athletic performance independently.

Two of the personality traits, emotional stabilty and tough-mindedness, which are related to self-confidence (Bandura, 1977; Cattell, Eber, & Tatsuoka, 1982; Ogilvie, 1968), were found to be predictive of athletic performance, independently and interactively. Self-confidence, which is treated as a more general trait (Carron, 1984), has been found to be positively related to performance in a number of

sports (Gould, Weiss, & Weinberg, 1981; Mahoney & Avener, 1977; Taylor, 1987) and physical activities (Nelson & Furst, 1972; Weinberg, Gould, & Jackson, 1979; Weinberg, Gould, Yukelson, & Jackson, 1981; Weinberg, Yukelson, & Jackson, 1980). The significant findings for emotional stability also supports the self-confidence and emotional stability relationship (Carron, 1984). High-level performers appeared more emotionally stable, allowing for better control of emotions and anxiety in enhancing their performance (Yerkes & Dodson, 1908). This finding for greater emotional stability is consistent with the findings of Oxendine (1970) and Taylor (1987) who found that strength-oriented, gross motor, aerobic sports (i.e., football) require more emotional arousal and control for maximum performance.

The traits, extroversion and group-dependence, were also found to be predictive of performance in collegiate football. These traits have been found consistently to differentiate levels of performance in high-level competitors (Cattell, 1965; Ogilvie, 1968). In addition, the interactions of these traits with emotional stability and tough-mindedness suggests these four traits are dependent on one another for maximum performance in collegiate football.

As predicted, the congruence of established preferences with perceived leader behaviors was significantly predictive of performance. High-level performers perceived their coach as offering more training and instruction, social support, and rewarding behavior, which is congruent with the literature on preferences for these leader behaviors (Bird,

1977a, 1977b; Bird & Cripe, 1986; Carron, 1984; Carron & Bennett, 1977; Chelladurai, 1984; Chelladurai & Carron, 1983; Fisher, Mancini, Hirsch, Proulx, & Staurowsky, 1982; Vos Strache, 1979).

Contrary to predictions, players who perceived their coach as being more democratic and less autocratic, were categorized as performing at higher skill levels. It was expected, based on previous studies, that the more successful players would prefer and perceive a more autocratic and less democratic descision-style from their coaches. Chelladurai and Carron (1983) have reported that with increased experience, athletes show an increased preference for a more autocratic decision-style, from their coaches, in situations of increased stress and competition.

To account for the present finding, several relevant studies (Foder, 1976; Korten, 1962; Lowin & Craig, 1968; Rosenbaum & Rosenbaum, 1971) should be considered. These studies have found that as stress dimenishes, preference for a more participative decision-style increases. For example, Rosenbaum and Rosenbaum (1971) demonstrated that under a high-stress condition, subjects with an authoritarian leader performed best, while in a low-stress condition, democratic leadership was more productive.

Applying these results to sport, the greatest amount of stress is present during games, resulting in preferences for a more authoritarian approach. In preseason training and practice situations, however, it is suggested that there is less stress, which has been reported to be associated with

preferences for a more participative, democratic approach. Considering the design of the present study, in which perception measures were obtained during preseason training, it is suggested that low-levels of stress were present, resulting in preferences for a more participative approach from the coach. This democratic decision-style preference would be congruent with the more successful players' perceptions of a more democratic approach by their coach.

The interactions of the trait and leader behavior variables are of particular interest. The analyses produced a number of significant trait X leader behavior interactions, suggesting that these variables are related and may not affect athletic performance independently. The perception of the coach as being less autocratic was the primary interactive variable. Among high-level performers, this variable was found to be significantly associated with high-levels of the four traits, extroversion, emotional stability, tough-mindedness, and group-dependence, along with perceptions of increased training and instruction, and rewarding behavior. These findings support Chelladurai and Carron's (1978) multidimensional leadership model, which suggests that athletic performance is the product of the congruence of preferred and perceived leader behaviors, and antecedent variables, such as situational (i.e., sport type) and member characteristics (i.e., personality traits).

It is becoming increasingly apparent that highly skilled athletes possess more self-confidence than less skilled athletes. Research indicates that these differences in

self-confidence also favor the best performers at the highest levels of athletic ability. Mahoney and Avener (1977), in studying the psychological factors affecting finalists for the 1976 U.S. Olympic Gymnastics Team, found that those athletes who experienced a lack of self-confidence, tended to perform poorly. In addition, Highlen and Bennett (1979) tested elite wrestlers prior to competition for positions on the Canadian World Wrestling team and found that self-confidence was the primary factor which distinguished the qualifiers from the non-qualifiers. In both of these studies, self-confidence appeared to be related to perseverance, effort, and ultimately maximal performance. Thus, the improvement of self-confidence may be of great importance in maximizing performance.

Due to the close relationship between success and the development of self-confidence, consideration must be given to the coaching environment to ensure the beginner experiences some successes. After self-confidence and positive "expectations are developed through repeated success, the negative impact of occasional failures is likely to be reduced. Indeed, occasional failures that are later overcome by determined effort can strengthen self-motivated persistence if one finds through experience that even the most difficult obstacles can be mastered by sustained effort" (Bandura, 1977, p. 195).

In considering high-level performers, the issue is more complex. The marked improvements with practice that are characteristic of the early stages of skill acquisition, no

longer exists. Extreme practice may only bring small improvements, leading the athlete to feel a performance ceiling has been set by physiological and biomechanical factors. Further improvements in performance may have to come from psychological factors. For example, Ness and Patton (1977) tested subjects in weight lifting experiments and found that subjects were able to bench press a significantly greater amount of weight when they believed the weight to be less than its actual value. In another study, Nelson and Furst (1972) tested subjects in an arm wrestling competition, where one individual was clearly weaker than the opponent, but both individuals were led to believe that their opponent was weaker. The results demonstrated that the weaker individual won 83 percent of the competitions. These studies demonstrate the importance of self-confidence and its relation to performance.

In conclusion, it has been shown that four personality traits, extroversion, emotional stability, tough-mindedness, and group-dependence, along with the five leader behavior dimensions, are predictive of performance in collegiate football. Athletes associated with high levels of the four significant traits are most satisfied, motivated, and productive in an environment characterized by warmth, positivism, respect, participation, support, and instruction (Carron, 1984). With this as a basis, athlete/coach interactions and practice sessions should be characterized by leader activity which emphasizes instruction, constructive feedback, encouragement, positive feedback, and support.

References

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215.

Bird, A. M. (1977a). Leadership and cohesion within successful and unsuccessful teams: Perceptions of coaches and players. In D. M. Landers & R. W. Christina (Eds.), Psychology of motor behavior and sport. Champaign, IL: Human Kinetics.

Bird, A. M. (1977b). Development of a model for predicting team performance. Research Quarterly, 48, 24-32.

Bird, A. M. & Cripe, B. K. (1986). Psychology and sport behavior. St. Louis: Times Mirror/Mosby College Publishing.

Carron, A. V. (1984). Motivation: Implications for coaching & teaching. Ontario: Sports Dynamics.

Carron, A. V., & Bennett, B. B. (1977). Compatibility in the coach-athlete dyad. Research Quarterly, 48, 671-679.

Cattell, R. B. (1965). The scientific analysis of personality. Baltimore: Penguin Books.

Cattell, R. B., Eber, H. W., & Tatsuoka, M. M. (1982). Handbook for the sixteen personality factor questionnaire (16 PF). Champaign, IL: Institute of Personality and Ability Testing.

Chelladurai, P. (1984). Discrepancy between preferences and perceptions of leadership behavior and satisfaction of athletes in varying sports. Journal of Sport Psychology, 6, 27-41.

Chelladurai, P., & Arnott, M. (1985). Decision styles in coaching: Preferences of basketball players. Research Quarterly of Exercise and Sport, 56, 15-24.

Chelladurai, P., & Carron, A. V. (1978). Leadership. Ottawa: CAHPER Sociology of Sport Monographs.

Chelladurai, P. & Carron, A. V. (1983). Athletic maturity and preferred leadership. Journal of Sport Psychology, 5, 371-380.

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. Journal of Sport Psychology, 2, 34-45.

Fiedler, F. E. (1967). A theory of leadership effectiveness New York: McGraw-Hill.

Fisher, A. C., Mancini, V. H., Hirsch, R. L., Proulx, T. J., & Staurowsky, E. J. (1982). Coach-athlete interactions and team climate. Journal of Sport Psychology, 4, 388-404.

Foder, E. M. (1976). Group stress, authoritarian style of control and use of power. Journal of Applied Psychology, 61, 313-318.

Gould, D., Weiss, R., & Weinberg, R. (1981). Psychological characteristics of successful and unsuccessful Big Ten wrestlers. Journal of Sport Psychology, 3, 69-81.

Hersey, P., & Blanchard, K. H. (1977). Management of organizational behavior (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Highlen, P. S., & Bennett, B. B. (1979). Psychological characteristics of successful and nonsuccessful elite

wrestlers: An exploratory study. Journal of Sport Psychology, 1, 123-137.

House, R. J. (1971). A path-goal theory of leader effectiveness. Administrative Science Quarterly, 16, 321-338.

Kane, J. E. (1970). Personality and physical abilities. In G. S. Kenyon (Ed.), Contemporary psychology of sport: Second International Congress of Sports Psychology. Chicago: Athletic Institute.

Kane, J. E. (1980). Personality research: The current controversy and implications for sport studies. In W. F. Straub (Ed.), Sport psychology: An analysis of athletic behavior (2nd ed.). Ithaca, NY: Mouvement.

Korten, D. C. (1962). Situational determinants of leadership structure. Journal of Conflict Resolution, 6, 222-235.

Kroll, W. (1970). Current strategies and problems in personality assessment of athletes. In L. E. Smith (Ed.), Psychology of motor learning. Chicago: Athletic Institute.

Kroll, W. (1976). Psychological scaling of the AIAW Code-of-Ethics for Players. Research Quarterly, 47, 126-133.

Lowin, A., & Craig, J. (1968). The influence of level of performance on managerial style: An experimental object-lesson in the ambiguity of correlational data. Organizational Behavior and Human Performance, 3, 440-458.

Mahoney, M. J., & Avener, M. (1977). Psychology of the elite athlete: An exploratory study. Cognitive Therapy

and Research, 1, 135-141.

Martens, R. (1975). Social psychology and physical activity. New York: Harper & Row.

Morgan, W. P. (1980a). Sport personology: The credulous-skeptical arguement in perspective. In W. F. Straub (Ed.), Sport psychology: An analysis of athlete behavior (2nd ed.). Ithaca, NY: Mouvement.

Morgan, W. P., & Costill, D. L. (1972). Psychological characteristics of the marathon runner. Journal of Sports Medicine and Physical Fitness, 12, 42-46.

Morgan, W. P., & Johnson, R. W. (1977). Psychological characterizations of the elite wrestler: A mental health model. Medicine and Science in Sports, 9(1), 55-56.

Morgan, W. P., & Johnson, R. W. (1978). Psychological characteristics of successful and unsuccessful oarsmen. International Journal of Sport Psychology, 11, 38-49.

Morgan, W. P., & Pollock, M. L. (1977). Psychological characterization of the elite distance runner. Annals of the New York Academy of Science, 301, 382-403.

Nelson, L. R., & Furst, M. L. (1972). An objective study of the effects of expectation on competitive performance. Journal of Psychology, 81, 69-72.

Ness, R. G., & Patton, R. G. (1977). The effect of external cue manipulation upon weight lifting performance. Paper presented at the American Alliance of Health, Physical Education, and Recreation, Seattle, Washington.

Ogilvie, B. C. (1968). Psychological consistencies within the personality of high-level competitors. Journal of

the American Medical Association, 205, 780-786.

Oxendine, J. B. (1970). Emotional arousal and motor performance. Quest, 13, 23-32.

Percival, L. (1971). The coach from the athlete's viewpoint. In J. W. Taylor (Ed.), Proceedings of the First International Symposium on the Art and Science of Coaching. Willowdale, Ontario: Fitness Institute Productions.

Rosenbaum, L. L., & Rosenbaum, W. B. (1971). Morale and productivity consequences of group leadership style, stress, and type of task. Journal of Applied Psychology, 55, 343-388.

Rushall, B. S. (1970). An evaluation of the relationship between personality and physical performance categories. In G. S. Kenyon (Ed.), Contemporary psychology of sport: Second International Congress of Sport Psychology. Chicago: Athletic Institute.

Rushall, B. S. (1975). Alternative dependent variables for the study of behavior in sport. In D. M. Landers (Ed.), Psychology of sport and motor behavior II. College Park: Pennsylvania State University.

SAS Institute Inc. SAS User's Guide: Statistics, 1985 Edition [Computer Program Manual]. Cary, NC: SAS Institute Inc., 1985. 584pp.

Singer, R. N., Harris, D., Kroll, W., Martens, R., & Sechrest, L. (1977). Psychological testing of athletes. Journal of Physical Education and Recreation, 48, 30-32.

Smith, R. E., Smoll, F. C., & Curtis, B. (1979). Coach effectiveness training: A cognitive-behavioral approach to enhancing relationship skills in youth sport coaches. Journal of Sport Psychology, 1, 59-75.

Smith, R. E., Smoll, R. L., & Hunt, E. (1977). A system for the behavioral assessment of athletic coaches. Research Quarterly, 48, 401-407.

Smith, R. E., Smoll, F. C., Hunt, E., Curtis, B., & Coppel, D. B. (1979). Psychology and the bad news bears. In G. C. Roberts & K. M. Newell (Eds.), Psychology of Motor Behavior and Sport-1978. Champaign, IL: Human Kinetics.

Taylor, J. (1987). Predicting athletic performance with self-confidence and somatic and cognitive anxiety as a function of motor and physiological requirements in six sports. Journal of Personality, 55, 139-153.

Vos Strache, C. (1979). Players' perceptions of leadership qualities for coaches. Research Quarterly, 50, 679-686.

Weinberg, R. S., Gould, D., & Jackson, A. (1979). Expectations and performance: An empirical test of Bandura's self-efficacy theory. Journal of Sport Psychology, 1, 320-331.

Weinberg, R. S., Gould, D., Jackson, A. (1981). The effect of preexisting and manipulating self-efficacy on competitive muscular endurance task. Journal of Sport Psychology, 4, 345-354.

Weinberg, R. S., Yukelson, D., & Jackson, A. (1980). Effects of public and private efficacy expectations on competitive performance. Journal of Sport Psychology, 2,

340-349.

Weiss, M. R., & Friedrichs, W. D. (1986). The influence of leader behaviors, coach attributes, and institutional variables on performance and satisfaction of collegiate basketball teams. Journal of Sport Psychology, 8, 332-346.

Williams, L. R. T., & Parkin, W. A. (1980). Personality profiles of three hockey groups. International Journal of Sport Psychology, 11, 113-120.

Yerkes, R. M., & Dodson, J. D. (1908). The relationship of strength of stimulus to rapidity of habit formation. Journal of Comparative Neurology and Psychology, 18, 459-482.

Table 1

Multiple Stepwise Regression of Personality Factors and Perceived Leader Behavior Variables on Performance Levels

				Final Step	
Variables	R	R^2	ΔR^2	B	F
Autocratic Behavior[b]	.60	.36		-.389	83.66***
Group-dependence[a]	.66	.43	.07	-.169	15.44***
Tough-mindedness[a]	.70	.49	.06	-.181	18.88***
Training & Instruction[b]	.73	.53	.04	.178	17.12***
Rewarding Behavior[b]	.74	.55	.02	.154	12.41***
Extroversion[a]	.76	.57	.02	.117	8.21**
Democratic Behavior[b]	.76	.58	.01	.110	7.14**
Social Support[b]	.76	.58	.00	.092	4.54*
Emotional Stability[a]	.77	.59	.01	.079	4.03*

Note. The R and R^2 entries for autocratic behavior represent simple r and r^2. The negative beta weight for autocratic behavior indicates association with lower levels of performance, while the negative beta weights for group-dependence and tough-mindedness reflect the low end of the 16PF bi-polar scale.

[a]Personality factors. [b]Leader behaviors.

*p<.05. **p<.01. ***p<.0001.

Table 2

Descriptive Statistics for the Significant Personality Traits and Leader Behavior Dimensions

	Regular (N=101)		Substitute (N=94)		Survivor (N=77)	
Variables	Mean	SD	Mean	SD	Mean	SD
Extroversion	6.60	1.23	5.70	1.43	5.17	1.18
Emotional Stability	5.58	1.45	5.33	1.89	5.13	1.13
Tough-mindedness	3.84	1.30	4.71	1.90	5.44	1.58
Group-dependence	4.23	1.69	5.53	1.58	6.05	1.92
Training & Instruct	4.15	.657	3.95	.786	3.39	.832
Democratic Behavior	3.45	.943	3.40	.543	2.78	.743
Autocratic Behavior	2.05	.678	2.46	.521	3.14	.859
Social Support	3.66	.543	3.46	.478	3.14	.487
Rewarding Behavior	4.18	.582	4.21	.694	3.27	.591

Note. The sten scores for the 16PF can vary from a low of 1 to a high of 10, and the LSS scores can vary from a low of 1 to a high of 5.